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GOVERNMENT OF KERALA

**REPORT ON THE CROP CUTTING
SURVEY ON WINTER AND
SUMMER CROP OF
PADDY 1976**



Government of Kerala

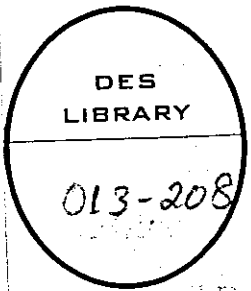
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**BUREAU OF ECONOMICS & STATISTICS, TRIVANDRUM
NOVEMBER 1976**

PRINTED BY THE S.G.P. AT THE GOVERNMENT PRESS,
TRIVANDRUM, 1977.

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THE CROP CUTTING SURVEY ON
WINTER AND SUMMER CROP
OF PADDY 1976

BUREAU OF ECONOMICS & STATISTICS TRIVANDRUM
NOVEMBER 1976

APPENDIX

Winter 1976

1. Table 1.1 Area, Mean yield and production of rice in each taluk—Winter 1976
2. Table 1.2 Area, Mean yield and production of rice in each district—Winter 1975 and 1976
3. Table 1.3 Analysis of variance of plot yields—Winter 1976
4. Table 1.4 Frequency distribution of plot yields—Winter 1976
5. Table 1.5 Results of driage experiments—Winter 1976
6. Table 1.6 Independent estimate of mean yield of paddy based on harvest stage inspection—Winter 1976
7. Table 1.7 Mean yield for winter season for each taluk for 6 years from 1971 to 1976
8. Table 2.1 Area, mean yield and production of high yielding and other varieties of paddy—Winter 1976
9. Table 2.2 Area, mean yield and production of high yielding varieties of paddy in each district—Winter 1975 and 1976
10. Table 2.3 Distribution of experimental plots with HYV of paddy according to varieties raised—Winter 1976
11. Table 2.4 Average yield of high yielding varieties—Winter 1976
12. Table 2.5 Yield rate of HYV and other varieties of paddy according to cultivation practices—Winter 1976
13. Table 3.1 Response percentage—Winter 1976
14. Table 3.2 Details of non-response—Winter 1976
15. Table 3.3 Work load of primary workers—District-wise allocation—Winter 1976
16. Table 3.4 Work load of primary workers according to performance—Winter 1976
17. Table 3.5 Number of experiments inspected—Winter 1976

Summer 1976

18. Table 4.1 Area, mean yield and production of rice in each taluk—Summer 1976
19. Table 4.2 Area, mean yield and production of rice in each district—Summer 1975 and 1976
20. Table 4.3 Analysis of variance of plot yields—Summer 1976
21. Table 4.4 Frequency distribution of plot yields—Summer 1976
22. Table 4.5 Results of driage experiments—Summer 1976
23. Table 4.6 Independent estimate of mean yield of paddy based on harvest stage inspection—Summer 1976
24. Table 4.7 Mean yield for summer season for each taluk for 6 years from 1971 to 1976
25. Table 5.1 Area, mean yield and production of high yielding and other varieties of paddy—Summer 1976
26. Table 5.2 Area, mean yield and production of HYV of paddy in each district—Summer 1975 and 1976
27. Table 5.3 Distribution of experimental plots with HYV of paddy according to varieties raised—Summer 1976
28. Table 5.4 Average yield of high yielding varieties—Summer 1976
29. Table 5.5 Yield rate of HYV and other varieties of paddy according to cultivation practices—Summer 1976
30. Table 6.1 Response percentage—Summer 1976
31. Table 6.2 Details of non-response—Summer 1976
32. Table 6.3 Work load of primary workers—District-wise allocation—Summer 1976
33. Table 6.4 Work load of primary workers according to performance—Summer 1976
34. Table 6.5 Number of experiments inspected—Summer 1976.

Autumn, Winter and Summer, 1975-76

35. Table 7.1 Season-wise Area, mean yield and production of high yielding varieties of paddy, 1975-76
36. Table 7.2 Season-wise Area, mean yield and production of rice in each district—1975-76
37. Table 7.3 Season-wise Area, mean yield and production of rice in Kerala from 1968-69 to 1975-76

CROP CUTTING SURVEY ON WINTER AND SUMMER CROP OF PADDY 1976

1. Introduction

The Bureau of Economics and Statistics is regularly conducting crop estimation surveys on two of the most important food crops viz. Paddy and Tapioca every year with a view to estimate productivity as well as total production of these crops in the State. The estimates are framed on the basis of sample surveys. In the case of Paddy, the survey is usually conducted during each of the three seasons viz. Autumn (Virippu), Winter (Mundakan) and Summer (Punja) separately in every year. As far as Tapioca is concerned, the survey is conducted only once in an year.

The results of the crop cutting surveys on Paddy are usually published in two reports, one for Autumn crop and the other for Winter and Summer crops together. As far as the Agricultural year 1975-76 is concerned, the report in respect of Autumn crop of Paddy has already been published and the present report relates to Winter and Summer crops of Paddy.

2.1 Objectives of the Survey

The main objectives of the Survey conducted during Winter and Summer 1976 were:

- i. to estimate the average yield of Paddy per hectare for each taluk
- ii. to estimate the average yield per hectare for each district and state as a whole and
- iii. to estimate the total production of rice in the state during the two seasons.

It was also intended to frame estimates of productivity of high yielding varieties of Paddy as well as the average yield in different fields which were brought under different cultivation practices like the application of Chemical Fertilisers, Irrigation, Insecticides etc., at the district and the state level.

2.2 Period of the Survey

The harvesting season of Winter crop is from December to March while that of Punja is from February to June. As such, the field work for the survey under reference was carried out from December 1975 to June 1976.

2.3 Coverage and sample size

During Winter 1976, the survey was conducted in all the taluks in the state except in Kuttanad and Cochin taluks. Summer crop is not usually raised in all the 57 taluks in the state. In Summer 1976, the survey was conducted in 50 taluks only as was done in the previous year.

2.4 Sampling design

A stratified multi-stage random sampling design was adopted for the survey. Each taluk was treated as the stratum, census village as the first stage unit, a survey subdivision number as the second stage unit, a kandom as the third stage unit and a square plot of side 5 metres as the ultimate sampling unit. From each of the taluk growing Paddy six census villages were selected by simple random sampling method from the list of Paddy growing census villages in the taluk. From each of these selected villages, a systematic sample of three survey subdivision numbers were selected from the frame consisting of the list of wet land survey subdivisions. In survey subdivisions having more than one kandom, one kandom was randomly selected and a square plot of side 5 metres was located at random in the selected survey subdivision/kandom. The crop in the square plot was harvested, thrashed, winnowed and weighed.

A sample of grain weighing not less than 250 Gms. was collected from every 5th experimental plot harvested and the drirage experiment was conducted by the Taluk Statistical Inspector.

2.5 Sample selection

The selection of census villages in each taluk for the conduct of the survey was done by the District Statistical Officer and the list of selected villages was forwarded to the concerned Statistical Inspectors. The selection of plots for the conduct of crop cutting experiments was done by the Statistical Inspectors. The list of the selected census villages was also forwarded to the Assistant Director, National Sample Survey Organisation, Trivandrum for facilitating inspection of the survey, especially at harvest stage by the inspecting staff of his office.

2.6 Field work

The field work of the survey was attended to by the Investigators under the supervision of Statistical Inspectors.

The total number of crop cutting experiments planned during Winter and Summer 1976 in the state were 96 and 837 respectively. The percentage response was found to be 93 for Winter and 96 for Summer. The percentage response in each district during the two seasons has been worked out and presented in Table 3.1 for Winter and Table 6.1 for Summer in the Appendix. The Tables 3.2 and 6.2 in the Appendix revealed that the loss of experiments was mainly due to prior harvest by cultivators (i.e. harvesting the plot before the date fixed for harvest without intimating the actual date of harvest to the Investigators).

According to the regular programme of work, 37 Investigators at the rate of one Investigator in each taluk have been allotted exclusively for attending to the work relating to crop cutting survey on Paddy from September 1975, the date of introduction of the Timely Reporting Scheme in the state for the collection of Agricultural Statistics. However, as in the past, the Investigators attached to other surveys, mainly of T. R. S., were drafted to attend to the crop cutting survey on Paddy at the peak harvesting season. During Winter and Summer 1976, the field work of the surveys was initially allotted to 163 and 129 Investigators respectively in the state. But in Winter the work was actually done by 158 investigators while in Summer the work was carried out by 132 Investigators. The allocation of field work to the Investigators according to the number of experiments in the different districts during Winter and Summer 1976 are given in Table 3.3 and Table 6.3 respectively in the Appendix. The distribution of Investigators according to the number of experiments actually conducted by them in the various districts in Winter and Summer is presented in Table 3.4 and 6.4 respectively in the Appendix. The average number of experiments conducted per Investigator came to 5.7 during Winter and 6.1 during Summer season when the total number of experiments analysed in the respective seasons was taken into consideration. About 22% of the Investigators in both the seasons had actually conducted more than 8 experiments per head. During the Winter season about 39% of the Investigators had conducted 5 to 8 experiments and another 39% at the rate of 4 or less per head and during summer season 45% of the Investigators had conducted 5 to 8 experiments and the remaining 33% 1 to 4 experiments.

Two schedules were prescribed for the field work, one preliminary schedule and the other final schedule. The investigator was instructed to fill up the preliminary schedule at the time of his first visit to the selected plot while the final schedule at the time of conducting crop cutting experiment in the plot.

The field work of the survey was inspected at 3 stages viz. pre-harvest, harvest and post harvest by the Statistical Inspectors and District Statistical Officers. From Summer 1976 onwards the Additional District Statistical Officers were also entrusted with the supervision of crop cutting survey on Paddy. Targets have been fixed for supervisory officials for the conduct of inspection of the survey at harvest stage. The Statistical Inspectors were directed to inspect at least one experiment at harvest stage in each village selected for the conduct of the survey in his taluk. The District Statistical Officers and the Additional District Statistical Officers were directed to inspect at the rate of one experiment in each taluk at harvest stage in their district. About 33% of the experiments analysed were inspected at harvest stage during each of the seasons under report. The percentage of pre-harvest stage inspection came to about 21 in Winter and 18 in Summer season. Post-harvest stage inspection came to about 5% of the experiments in each season. The number of experiments inspected at the three stages together with their percentages in all the districts and the state during Winter and Summer seasons are given in Table 3.5 and 6.5 respectively in the Appendix.

2.7. Analysis

The analysis of the data collected through the survey was done at the headquarters of the Bureau by the Agricultural Statistics unit.

2.8. Procedure of Estimation.

(i) *Mean yield*:—The taluk wise mean yield of dry paddy and its standard error were estimated using the following formula.

$$\text{Taluk mean yield} = \bar{x} = \frac{\sum_{i=1}^k \sum_{j=1}^{n_i} x_{ij}}{\sum_{i=1}^k n_i}$$

Where n_i = Number of experiments conducted in the i th village ($i = 1, 2, 3, \dots, k$)

k = Number of villages selected in the taluk.

x_{ij} = Weight of paddy obtained from the j th experiment in the i th village/kara ($j = 1, 2, 3, \dots, n_i$)

Each cut (experiment) is taken from 5 metre square ($\frac{1}{100}$ th of a hectare).

Mean yield of dry paddy in kg. per hectare = $\bar{x} \times 400 \times d$ where d is the drriage ratio of dry paddy to wet paddy.

(ii) *Standard Error (S. E.) of taluk mean yield*: Variance of taluk.

$$\text{mean yield} = \frac{A}{N} + \frac{B-A}{m} \times \frac{\sum_{i=1}^k n_i^2}{N^2}$$

Where A = Mean square within karas.

B = Mean square between karas.

N = Total number of experiments conducted in the taluk $\left(\sum_{i=1}^k n_i \right)$

n_i = Number of experiments conducted in the i th village/kara

$$m = \frac{N^2 - \sum_{i=1}^k n_i^2}{N(k-1)} \quad \text{and}$$

k = Number of villages selected in the taluk.

The standard error (S. E.) is the square root of this variance. The standard error in Kg./Hectare is obtained by multiplying this root of variance with 400.

(iii) *Standard Error of the State Mean Yield*: The formula adopted for the computation of Standard Error of the state mean yield is indicated below.

$$\text{The Standard Error of the State Mean Yield} = \sqrt{\frac{\sum (a_i - s_i)^2}{(\sum a_i)^2}}$$

Where a_i = Area under the crop in the i th taluk and
 s_i = The Standard Error of the estimate of mean yield in
the i th taluk.

The data on area under paddy in each taluk estimated from the Land Utilisation Survey of this department have been utilised to compute the production of rice.

The weight of cleaned rice is reckoned as 65.7% of dry paddy.

3.1. Results of the survey

The estimated production of rice in the state during the year 1975-76 is given below.

Autumn 1975	=	585068	Tonnes
Winter 1976	=	587827	"
Summer 1976	=	190970	"
Total	=	1363865	"

The production of rice in the state has shown an increase of about 2.2 % during the year under report from the level of production obtained in 1974-5. However, it was found that compared to the corresponding season of the previous year the production of rice in the state has decreased by about 2.4 % during Winter 1976 and 2.7 % during Summer 1976. The productivity in both the seasons has dwindled by about 2 % in Winter and 5 % in Summer. The reason for the fall in production during Winter season was reported to be heavy rain at the early stages of growth of Paddy in almost all the Districts. Drought and pest attack in different parts of the state were reported to be the major factors responsible for the decrease in production during Summer season. The crop was reported to be completely damaged in two plots selected for crop cutting experiment in Summer 1976, one due to severe drought at Ponnani taluk and the other at Quilandy taluk.

The estimated area, mean yield and its standard error, production of rice together with the number of crop cutting experiments analysed in each taluk during Winter and Summer 1976 are given in Table 1.1 and 4.1 respectively in the Appendix.

For facilitating comparison, the data on area, mean yield and production of rice in all the districts of the state during the corresponding seasons of 1971-75 are presented along with those of Winter and Summer 1976 in Table 1.2 and 4.2 respectively in the Appendix. It is seen from Table 1.2 that the fall in productivity at the district level in 6 out of 11 districts in the state has resulted in the decrease in the production of rice in Winter 1976 compared to the corresponding season of the previous year. More conspicuous fall in productivity was found at Ernakulam district where the estimated productivity of Paddy in all the taluks dwindled during the season under report. In Muvattupuzha and Kothamangalam where the decrease was more it was reported that the whether conditions were not favourable to the Winter crop as there was heavy rain at the flowering stage in those area. Table 4.2

reveals that in Summer 1976 also the productivity at the district level has shown decrease in 6 out of 11 districts. But the corresponding decrease in production was seen only in 4 districts and in the other two districts viz. Trivandrum and Palghat the same has not been reflected due to the increase in area under Summer Paddy in 1976. The decrease in productivity was found to be the highest in Malappuram district where in two taluks viz. Pannani and Tirur the productivity of Paddy has fallen very much due to severe drought conditions prevailed there in Summer 1976.

Crop cutting experiments under I. A. D. P. series were conducted in both the I. A. D. P. districts of Alleppey and Palghat during the Winter 1976 and in Summer 1976, it was conducted only at Alleppey district. Usually during Summer season, crop cutting experiments under I. A. D. P. series are not done at Palghat district, as the area under Summer Paddy is very small in that district. It was found impossible to pool the estimates of mean yield of Paddy obtained from the State series and I. A. D. P. series of experiments conducted at Alleppey district during the two seasons under report, as the Statistical test for non significance turned out to be highly significant. As such, pooled estimate was framed for Palghat district in respect of Winter crop. The details of both series of experiments conducted at Alleppey and Palghat Districts are presented in the table given below.

TABLE-I

Details of Experiments planned and conducted under I. A. D. P. and State Series during Winter and Summer 1976

Series	Alleppey				Palghat			
	No. of Experiments		Mean yield of dry paddy (kg./hect)	Standard Error	No. of Experiments		Mean yield of dry paddy (kg./hect)	Standard Error
	Planned	Analysed			Planned	Analysed		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Winter 1976</i>								
IADP Series	150	130	1643	52	250	188	3046	59
State Series	108	104	1848	84	90	77	3068	126
<i>Summer 1976</i>								
IADP Series	300	205	2742	60				
State Series	103	102	3058	191				

The following formula is used for pooling the estimates of mean yield.

$$\text{Pooled mean yield} = \frac{V_2 \times X_1 + V_1 \times X_2}{V_1 + V_2}$$

Where X_1 and X_2 are the mean yields of the district under State series and IADP series of experiments respectively while V_1 and V_2 are their respective sampling variances.

The standard error of the pooled mean yield of the district is given by the formula

$$\sqrt{\frac{1}{V_1} + \frac{1}{V_2}}$$

The analysis of variance of plot yields pooled for the State is given in Table 1.3 and 4.3 in the Appendix in respect of Winter and Summer Seasons, respectively. In both the cases the yield rate of paddy was found to be statistically significant between taluks as well as karas within each taluk. In other words, yield rates were found to be significantly different from taluk to taluk. Besides, significant difference was also found in the yield rates from kara to kara even within a taluk.

The frequency distribution of plot yields obtained through the survey in each district as well as the state during the Winter and Summer Seasons are given in Table 1.4 and 4.4 respectively in the Appendix. It was found that the yield obtained from about 50% of the experimental plots was over 2500 kgs. of wet paddy per hectare in both the seasons. About 14% of the experimental plots in summer have yielded more than 4100 kgs. of wet paddy per hectare whereas in winter, this percentage was found to be less than 6. When compared with the corresponding seasons of the previous year, it was found that there was a reduction in the percentages by one in summer 1976 and two in Winter 1976. The lowest yield rate of less than 500 kgs. of wet paddy per hectare was obtained from only one percent of experimental plots in Winter and from about 3% plots in summer 1976.

With a view to find out dridge ratio of dry paddy to wet paddy 156 and 137 dridge experiments were conducted in taluk statistical offices during winter and summer respectively. The dridge ratios for each district and the State are presented in Table 1.5 and 4.5 in the Appendix, for Winter and Summer respectively. The lowest dridge ratio of 86.9 was obtained for Trichur District in Winter and 84.8 for Trivandrum in Summer. The percentage recovery of dry paddy from wet paddy was found to be the highest (92.4) in Palghat district in Winter and (94) Mala puram district in Summer. The dridge ration for the State was estimate to be 89.5 and 90.1 for winter and summer respectively.

Independent estimates of mean yield of paddy (simple average) both wet and dry for the districts and the state were framed on the basis of yield obtained from the experimental plots inspected by the Statistical Inspectors and the District Statistical Officers and Additional District Statistical Officers at harvest stage. During Winter about 91% of the experiments programmed to be inspected at harvest stage could be inspected while in summer season only 76% could be inspected. Changes made by the cultivators in the dates of harvest originally fixed were reported to be the main reason for the shortfall in achievements in this regard. The estimated average yield (simple average) for each district and the State based on harvest stage inspections are given in Table 1.6 and 4.6 in the Appendix for Winter and Summer respectively.

The estimated mean yield of Winter and Summer paddy for each taluk for the last 6 years from 1971 to 1976 are given in Table 1.7 and 4.7 respectively in the Appendix.

3.2 High Yielding Varieties :

In Table 2.1 and 5.1 in the Appendix, the estimates of area, mean yield and production of high yielding varieties, other varieties including traditional and improved varieties and all the varieties of paddy at the district and at the State level are presented for Winter and Summer respectively. The estimates showed that about 16% of paddy area in winter and 67% paddy area in summer were brought under high yielding varieties of paddy.

It is seen from the comparative tables (Table 2.2 and 5.2 in the Appendix) of area, mean yield and production of rice during the respective seasons of 1975 and 1976, that the area under high yielding varieties of paddy has increased by about 22% in Winter 1976 and 77% in Summer 1976 in the State. Compared to the winter season of 1975, the productivity of high yielding varieties at the State level has dwindled by about 3% in Winter 1976 and in the case of Summer crop also the productivity decreased by less than 1%. However, during Winter 1976 the productivity at the district level went up in Quilon, Alleppey, Palghat, Kozhikode and Cannanore. In Summer season also the productivity has shown little improvement in Quilon, Kottayam, Ernakulam and Cannanore Districts. The district level estimate of high yielding varieties in the remaining districts were actually declined during these two seasons in 1976 from the level it attained in 1975. Nevertheless, the estimated production of rice from the high yielding varieties came to about 15 thousand tonnes more in Winter 1976 and about 61 thousand tonnes more in summer 1976 compared to that of the corresponding seasons of the previous year.

The distribution of experimental plots with high yielding varieties of paddy according to the varieties raised in each district and the State during Winter and Summer 1976 are given in Table 2.3 and 5.3 respectively in the Appendix. It was found that about 16% and about 55% of the plots selected for the conduct of the survey were brought under high yielding varieties during winter and summer respectively. It can reasonably be concluded from this table that the high yielding varieties of paddy in the order

of cultivators preference are Jyothi, Jaya, Thriveni, Annapurna, IR 8, Bharathi etc. during Winter season and Thriveni, Jyothi, Jaya, Annapurna, IR 8, Bharathi etc. in Summer season though all of them were not cultivated in all the districts. Jaya was reported to have been raised in all the districts except at Idukki in both the seasons. Thriveni was cultivated in all the districts during Summer 1976. The recently introduced varieties like Rohini, Aswathy, Pankaj, etc. are yet to gain momentum as far as their popularity among the cultivators in the State are concerned.

The average yield (simple average) of different high yielding varieties as the District and the State level has been estimated and presented in Table 2.4 and 5.4 for Winter and Summer seasons respectively in the Appendix. The highest State average yield of 2963 Kgs per hectare was obtained for Thychung variety in Winter 1976 and in Summer 1976, the highest State average yield of 3513 Kgs. per hectare was obtained for Jyothi variety closely followed by Bharathi (3512 Kgs. per hectare). The names of high yielding varieties which correspond to the highest average yield in each district together with the highest average yield and the number of experimental plots where the crop was raised in each district during Winter 1976 are indicated in subjoined table.

TABLE 2

**High Yielding Varieties correspond to the Highest District
Average Yield—Winter—1976**

Sl. No.	District	HYV correspond to highest average yield	Highest average yield obtained (dry paddy Kgs/hect.)	No. of experimental plots where HYV given in Col. 3 raised
(1)	(2)	(3)	(4)	(5)
1.	Trivandrum	Thriveni	2627	2
2.	Quilon	IR 20	2564	1
3.	Alappay	Jyothi	3451	6
4.	Kottayam	Jaya	4176	1
5.	Idukki	Thriveni	1797	1
6.	Ernakulam	Thriveni	2119	1
7.	Tirichur	Jaya	2702	5
8.	Palghat	IR 20	3608	4
9.	Malappuram	Culture 23	3577	1
10.	Kozhikode	Thychung	2963	4
11.	Cannanore	IR 8	3305	4

The highest district average yield was obtained for 'Jaya' in Kottayam District. In Trichur District also 'Jaya' stood first as far as the highest district average yield was concerned. The second highest district average yield was obtained for IR 20 in Palghat District. Thriveni obtained the highest district average yield in 3 districts viz. Trivandrum, Idukki and Ernakulam. Though 'Jyothi' was found to be the most widely adopted variety during Winter 1976, it got only the fourth place when its productivity at the district level was taken into consideration.

As far as Summer season is concerned the names of high yielding varieties which correspond to the highest average yield in each district together with the highest average yield and the number of experimental plots where the crop was raised in each district are given in the following table.

TABLE 3

High Yielding Varieties correspond to the Highest District Average Yield—Summer—1976

Sl. No.	District	H Y V correspond to highest average yield	Highest average yield obtained (dry paddy Kg/Hect.)	No. of experimental plots where H Y V given in Col. 3 raised
(1)	(2)	(3)	(4)	(5)
1.	Trivandrum	Sabari	3190	1
2.	Quilon	Jyothi	3467	3
3.	Alleppey	Bharathi	4775	1
4.	Kottayam	Thriveni	4074	1
5.	Idukki	..	..	..
6.	Ernakulam	Bharathi	3435	1
7.	Trichur	Jaya	3434	5
8.	Palghat	Bharathi	4677	4
9.	Malappuram	Jyothi	5596	1
10.	Kozhikode	IR 8	3269	8
11.	Cannanore	Jaya	3307	7

'Jyothi' got the highest district average yield in Malappuram district during Summer 1976. In Quilon district also it recorded the highest district average yield. The second highest district average yield in the State was secured by 'Bharathi' in Alleppey District. This variety recorded the highest district average yield in two more districts viz. Ernakulam and Palghat in the season. Thriveni, the most widely adopted high yielding

variety during the season got only the fourth place when its productivity was compared at the district level. Even though the variety 'Bharathi' got the highest district average yield in 3 districts, it has not yet gained adequate momentum as far as its adoption by the ryots are concerned.

3.3 Cultivation Practices

It was found that about 36% and 75% of the experimental plots received irrigation during Winter and Summer 1976 respectively. These percentages were 40 and 70 respectively during the corresponding seasons in the previous year. About 82% of the irrigated plots were applied with chemical fertilisers during Winter 1976, while in Summer this percentage was found to be increased to 91. In Winter 1976, another 15% of the irrigated plots were reported to have been applied with other manures like farm yard manure, green manure, compost manure etc. This type of manure was also applied to 8% of the experimental plots in summer season. Thus it is seen that about 3% and 1% of the irrigated plots covered by the survey left unmanured during Winter and Summer 1976 respectively.

As far as unirrigated plots were concerned, 69% of them were found to have been received chemical fertilisers and another 27% received other type of manures like farm yard manure, green manure, compost manure etc., during Winter 1976. In Summer 1976, these percentages came to 75 and 21 respectively. About 4% of the unirrigated plots were cultivated without any manure in each of these two seasons.

It was reported that crops in about 59% and 80% of the experimental plots were treated with insecticides and pesticides during Winter and Summer 1976 respectively. During Summer 1976 pest attack on paddy crop on a large scale was reported from Kottayam, Alleppey and Trichur districts in the State. Considerable loss of straw was also reported from Mukundapuram taluk.

In the case of experimental plots where high yielding varieties were raised, it was found that 49% and 76% of them received irrigation in Winter and Summer 1976 respectively. About 99% and 98% respectively of these irrigated plots were brought under chemical fertilisers during Winter 1976 and Summer 1976. About 88% of the unirrigated plots under high yielding varieties in winter season and 86% of such plots in summer season were also brought under chemical fertilisers. No plot under high yielding varieties covered by the survey during winter left unmanured. But in summer only 3 out of 440 high yielding variety plots were found to have been left unmanured.

Insecticides and pesticides were applied to about 90% of the experimental plots under high yielding varieties in each of the two seasons under report.

The estimated average yield of high yielding and that of other varieties of paddy in irrigated plots, manured and unmanured plots and plot treated and untreated with insecticides and pesticides together with the number of experiments obtained in the survey under each of these categories in respect of winter and summer seasons of 1975-76 are given in Table 2.5 and 5.5 respectively in the Appendix.

The data on the estimated area, mean yield and production of high yielding varieties of paddy in each district during the three seasons, viz. Autumn, Winter and Summer of 1975-76 are given in Table 7.1 in the Appendix to facilitate comparison. Similarly a statement is given for all varieties of paddy in Table 7.2 in the Appendix. Data on estimated area, mean yield and production of rice in the State for the last 8 years are given separately for each season as well as annual in Table 7.3 in Appendix.

APPENDIX

TABLE I. I

**Estimated Area, Mean yield and production of Rice
Winter crop of Paddy 1976**

Taluk & District	No of experi- ments	Area in hectares	Mean yield of dry paddy in kg./ hectare	Stand- ard error	Produ- ction of rice in tonnes.
(1)	(2)	(3)	(4)	(5)	(6)
1. Neyyattinkara	17	6183	2759	202	11208
2. Trivandrum	18	4436	2272	72	6622
3. Nedumangad	17	5043	2578	285	8542
4. Chirayinkil	18	4764	2703	228	8460
TRIVANDRUM DISTRICT	70	20426	2595	108	34832
5. Quilon	18	4760	2165	275	6771
6. Kottarakkara	18	7174	2872	97	13537
7. Kunnathur	17	5171	2376	296	8072
8. Pathanapuram	18	4883	3083	146	9891
9. Pathanamthitta	18	2403	2865	228	4523
10. Karunagappally	18	4721	2147	143	6659
QUILON DISTRICT	107	29112	2585	83	49453
11. Karthigappally	18	5949	1682	160	6574
12. Mavelikkara	18	5495	1715	113	6192
13. Chengannur	16	2633	2569	244	4444
14. Thiruvalla	16	2843	2668	278	4983
15. Kuttanad	..	..	..	..	..
16. Ambalapuzha	18	2211	2383	515	3462
17. Sherthallai	18	4414	1013	126	2938
ALLEPPEY DISTRICT	104	23545	1848	84	28593
18. Changanacherry	18	1458	2558	92	2450
19. Kanjirappally	6	143	2062	124	194
20. Kottayam	17	7140	2334	326	10949
21. Vaikom	18	7175	1997	197	9414
22. Meenachil	18	2917	2485	226	4762
KOTTAYAM DISTRICT	77	18833	2244	149	27769
23. Peermede	9	89	3008	1085	176
24. Devikulam	18	4195	2524	51	6956
25. Udumbanchola	18	1653	2881	273	3129
26. Thodupuzha	17	3315	2389	93	5203
IDIKKI DISTRICT	62	9252	2544	64	15464

TABLE-1.1 (Contd.)

	(1)	(2)	(3)	(4)	(5)	(6)
27.	Kothamangalam	17	4712	2374	126	7349
28.	Muvattupuzha	14	7381	2009	136	9742
29.	Cochin	..	..	..	..	..
30.	Kanayannur	12	4736	1833	249	5703
31.	Kunnathunad	16	11640	2023	49	15471
32.	Alwaye	13	10132	2159	111	14372
33.	Parur	14	1961	2159	248	2782
	ERNAKULAM DISTRICT	86	40562	2079	53	55419
34.	Crangannore	15	1549	1255	131	1277
35.	Mukundapuram	16	15327	1677	151	16887
36.	Trichur	14	17699	2316	209	26931
37.	Thalappilly	18	16342	2453	121	26337
38.	Chowghat	11	8576	1165	100	6564
	TRICHUR DISTRICT	74	59493	1995	82	77996
39.	Chittur	15	22364	3458	370	50809
40.	Alathur	15	20525	3387	178	45676
41.	Palghat	17	15721	2913	222	30087
42.	Ottappalam	13	17384	2553	209	29159
43.	Mannarghat	17	6216	2451	89	10010
	PALGHAT DISTRICT	77	82211	3050* 3068	126	164739* 165741
44.	Perinthalmanna	18	5733	2362	149	8897
45.	Ponnani	17	6440	2120	145	8970
46.	Tirur	18	10257	1785	157	12029
47.	Ernad	16	13724	2165	171	19521
	MALAPPURAM DISTRICT	69	36154	2080	86	49417
48.	Kozhikode	17	9864	1772	211	11484
49.	Quilandy	17	6716	1107	98	4885
50.	Badagara	16	3150	1299	146	2688
51.	South Wynad	18	15232	2482	205	24838
	KOZHIKODE DISTRICT	68	34962	1911	110	43895
52.	North Wynad	18	9285	2235	170	13634
53.	Tellicherry	18	3172	1693	146	3528
54.	Cannanore	18	1563	1713	170	1759
55.	Taliparamba	17	6000	2010	193	7923
56.	Hosdurg	18	4218	2381	202	6598
57.	Kasargode	18	4918	2107	232	6808
	CANNANORE DISTRICT	107	29156	2101	85	40250
	STATE	901	383706	2336	36	588829
	Pooled estimate - State			2332		587827

* Pooled estimates of State series and IADP series of experiments.

TABLE 1.2

Estimated Area, mean yield and production of Rice relating to winter crop of paddy 1975 and 1976

Sl. No.	District	Area in hectares		Mean yield of dry paddy (in kg./hect.)		Production of rice (tonnes)	
		1975	1976	1975	1976	1975	1976
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Trivandrum	20188	20426	2444	2595	32413	34832
2.	Quilon	29369	29112	2488	2585	48003	49453
3.	Alleppey	23572	23545	2007	1848	31082	28593
4.	Kottavam	19019	18833	2358	2244	29463	27769
5.	Idukki	9189	9252	2694	2544	16264	15464
6.	Ernakulam	40270	40562	2441	2079	64586	55419
7.	Trichur	60131	59493	2140	1995	84529	77996
8.	Palghat	82274	82211	3175	3050*	171607	164739*
9.	Malappuram	35961	36154	1812	2080	42804	49417
10.	Kozhikode	35146	34962	1900	1911	43875	43895
11.	Cannanore	29717	29156	1924	2101	37560	40250
	STATE	384836	383706	2382	2332*	602186	587827*

* Pooled estimates of IADP and State series of experiments.

TABLE 1.3

Winter crop of paddy—1976

Analysis of variance of plot yield pooled for the State, in Kgs./plot of 1/400th of an Hectare

Source of variation	Sum of squares	Degrees of freedom	Mean sum of squares (variance)	Variance ratio (calculated)
(1)	(2)	(3)	(4)	(5)
1. Between taluk	1892.16	54	35.040	9.571**
2. Between karas within taluk	1543.96	268	5.761	1.574**
3. Within karas within taluk	2116.15	578	3.661	
All	5552.27	900		

** Significant at 1% level.

TABLE 1.4
 Winter crop of paddy 1976
 Frequency Distribution of plot yield (wet paddy)

Sl. No.	Class Interval (kgs./hect.)	Trivandrum	Qulion	Alleppey	Kottayam	Idiiki	Ernakulam	Trichur	Palghat	Malappuram	Kozhikode	Cannanore	State
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Below 500	..	1	4	1	..	..	..	..	..	2	2	9
2.	500-699	..	1	2	1	1	1	..	..	1	1	..	8
3.	700-899	1	2	4	1	1	..	..	..	1	4	4	20
4.	900-1099	1	2	5	1	..	..	..	..	2	4	2	16
5.	1100-1299	..	3	11	5	1	2	..	1	8	9	11	56
6.	1300-1499	1	4	9	4	1	3	10	1	2	9	1	42
7.	1500-1699	1	3	5	7	3	3	11	3	3	8	7	54
8.	1700-1899	2	3	9	4	1	9	5	1	10	7	12	63
9.	1900-2099	1	6	5	3	2	12	5	5	4	1	16	60
10.	2100-2299	5	3	7	6	4	5	2	3	4	3	12	54
11.	2300-2499	5	7	4	4	6	15	7	5	6	2	6	67
12.	2500-2699	9	3	6	4	2	7	4	6	9	5	6	66
13.	2700-2899	8	11	6	9	5	6	4	11	7	2	4	65
14.	2900-3099	10	13	2	6	8	11	5	4	6	2	7	74
15.	3100-3299	5	14	7	4	8	5	2	3	7	3	4	62
16.	3300-3499	6	12	5	5	3	1	1	5	2	1	1	42
17.	3500-3699	3	11	4	2	3	2	..	5	1	3	4	38
18.	3700-3899	2	4	3	4	3	1	4	5	..	1	2	29
19.	3900-4099	2	5	2	4	2	2	2	5	1	1	4	25
20.	4100 and above	8	4	4	9	8	..	2	3	..	1	2	51
	All	70	107	104	77	62	86	74	77	69	68	107	901

TABLE 1.5

The Results of driage experiments—Winter 1976

Sl. No.	District	No. of driage experiments		Total yield collected for driage experiments (kgs.)	Total yield after driage operation (kgs.)	Driage ratio (percentage)
		Planned	Analysed			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Trivandrum	12	12	3 000	2 628	87.6
2.	Quilon	18	18	4 500	4 051	90.0
3.	Alleppey	18	18	4 500	4 111	91.4
4.	Kottayam	13	13	3 250	2 828	87.0
5.	Idikki	10	10	2 500	2 205	88.2
6.	Ernakulam	18	18	4 500	3 963	88.1
7.	Trichur	15	15	3 750	3 257	86.9
8.	Palghat	15	10	2 500	2 311	92.4
9.	Malappuram	12	12	3 000	2 714	90.5
10.	Kozhikode	12	12	3 000	2 729	91.0
11.	Cannanore	18		4 500	4 106	91.2
	STATE	161	156	39 000	34 903	89.5

TABLE 1.6

Independent estimate of mean yield of paddy based on harvest stage inspection during winter 1976

Sl.No.	District	No. of experiments		Mean yield of paddy (kgs./hectare)		Driage ratio used for column 6
		Planned for harvest stage inspection	Inspected at harvest stage	Before driage	After driage	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Trivandrum	27	31	2809	2461	0.876
2.	Quilon	42	40	2992	2693	0.900
3.	Alleppey	42	38	2122	1940	0.914
4.	Kottayam	31	29	2738	2382	0.870
5.	Idukki	25	20	3092	2727	0.882
6.	Ernakulam	42	37	2334	2056	0.881
7.	Trichur	35	33	2133	1854	0.869
8.	Palghat	35	22	3444	3182	0.924
9.	Malappuram	28	24	2735	2475	0.905
10.	Kozhikode	28	26	1993	1814	0.910
11.	Cannanore	42	44	2335	2130	0.912
	STATE	377	34*	2562	2293	0.895

TABLE 1.7

Estimated mean yield of dry paddy (kg./hect.) during
Winter Season from 1971 to 1976

Taluk and District	1971	1972	1973	1974	1975	1976
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Neyyattinkara	2702	2224	2135	2164	2130	2759
2. Trivandrum	2039	2488	2330	2058	2548	2272
3. Nedumangad	2091	2791	2999	2010	2450	2578
4. Chirayinkil	1968	2608	2477	2289	2732	2703
TRIVANDRUM DISTRICT	2232	2513	2474	2131	2444	2595
5. Quilon	2705	2058	2209	2657	2230	2165
6. Kottarakkara	2845	2900	2420	2720	2497	2872
7. Kunnathur	2810	2368	2510	2245	2712	2376
8. Pathanapuram	2513	2882	3521	2844	2788	3083
9. Pathanamthitta	2788	2564	2204	2604	2732	2865
10. Karunagappally	2234	1826	1991	2319	2039	2147
QUILON DISTRICT	2657	2458	2498	2568	2488	2585
11. Karthigappally	2282	1487	1735	1258	1705	1682
12. Mavelikkara	2332	1883	2072	1493	2878	1715
13. Chengannur	2218	3246	3853	2345	3043	2569
14. Thiruvalla	2793	2317	2425	2056	2849	2668
15. Kuttanad	..	..	..	..	..	..
16. Ambalapuzha	1770	1794	1294	1094	1205	2383
17. Sherthallai	907	774	938	618	565	1013
ALLEPPEY DISTRICT	1896*	1778*	2001*	1407	2007	1848
18. Changanacherry	2699	2942	2199	2070	3031	2558
19. Kanjirappally	1670	2154	2327	2327	1951	2062
20. Kottayam	2746	2455	2894	1821	2490	2334
21. Vaikom	2415	2180	1961	1892	1992	1997
22. Meezechil	2835	2810	2308	2101	2582	2485
KOTTAYAM DISTRICT	2619	2440	2392	1918	2358	2244
23. Peermade	3045	2671	3835	3835	2643	3008
24. Devikulam	2108	2286	2549	1829	2624	2524
25. Udumbanchola	3089	2895	2484	2831	2473	2881
26. Thodupuzha	2101	1933	2423	2265	2890	2389
IDUKKI DISTRICT	2293	2273	2498	2179	2694	2544

TABLE 1.7 (Concl'd)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
27. Kothamangalam	} 2125	1940	2263	2296	2734 2673	2374 2009
28. Muvattupuzha						
29. Cochin						
30. Kanayannur	2307	1858	1526	1381	1984	1833
31. Kunnathunad	2101	2056	2112	2007	2402	2023
32. Alwaye	2432	2118	2034	1726	2420	2159
33. Parur	1777	1985	1583	1820	2338	2159
ERNAKULAM DISTRICT	2199	2013	2037	1903	2441	2079
34. Crangannore	1236	1772	1835	1082	1060	1255
35. Mukundapuram	2007	2448	2361	1738	1743	1677
36. Trichur	2181	2099	2127	1365	2306	2316
37. Thalappally	2521	2474	2399	2020	2381	2453
38. Chowghat	1486	1327	2441	1050	2246	1165
TRICHUR DISTRICT	2103	2175	2303	1587	2140	1995
39. Chittur	2424	2613	2634	2042	3858	3458
40. Alathur	3533	3489	3382	2675	3420	3387
41. Palghat	2238	3995	2698	2637	2889	2913
42. Ottappalam	2207	2591	1980	2020	2445	2553
43. Mannarghat	1965	2107	1880	2537	2675	2451
PALGHAT DISTRICT	2556	3237*	2786*	2336	3175	3050*
44. Perinthalmanna	2937	2013	2060	1769	2242	2362
45. Ponnani	1320	4591	4436	2894	2161	2120
46. Tirur	1661	1696	4184	2288	1811	1785
47. Ernad	2043	1867	2380	1946	1467	2165
MALAPPURAM DISTRICT	1943	2347	3222	2185	1812	2080
48. Kozhikode	2052	1322	1752	1506	1970	1772
49. Quilandy	1246	1500	1357	1339	1377	1107
50. Badagara	2461	1727	1249	1150	1440	1299
51. South Wynad	2131	2627	2593	2696	2171	2482
KOZHIKODE DISTRICT	1974	1942	1991	1959	1900	1911
52. North Wynad	2993	2108	2332	2738	2139	2235
53. Tellicherry	1132	1582	1456	1564	1597	1693
54. Cannanore	1501	1420	1648	1572	1117	1713
55. Taliparamba	1857	1600	1852	1662	1734	2010
56. Hosdurg	2082	1719	1971	1611	2068	2381
57. Kasargode	1618	2119	2040	2284	2122	2107
CANNANORE DISTRICT	1914	1847	1994	2083	1924	2101
STATE	2259*	2378*	2426*	2028	2382	2332*

* Pooled estimates.

TABLE 2.1

Estimated area, mean yield and production of High yielding and other varieties of paddy during winter 1976

Sl. No.	District	H. Y. V.	No. of experiments conducted	Percentage of H. Y. V. experiments to total No. of experiments	High yielding varieties			Other varieties			All varieties		
					Area (hect.)	Mean yield of dry paddy (kgs./hect.)	Production of rice (tonnes)	Area (Hect.)	Mean yield of dry paddy Kgs./Hect.	Production of rice Tonnes	Area (Hect.)	Mean yield of dry paddy Kgs./Hect.	Production of rice (Tonnes)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Trivandrum	7	70	10.00	2043	2444	3280	18383	2612	31552	20426	2595	34832
2	Quilon	7	107	6.54	1904	2186	2735	27208	2613	46718	29112	2585	49453
3	Alleppey	11	104	10.58	2491	2841	4650	21054	1731	23943	23545	1848	28593
4	Kottayam	40	77	51.95	9784	2447	15730	9049	2025	12039	18833	2244	27769
5	Idukki	1	62	1.61	149	1797	176	9103	2556	15288	9252	2544	15464
6	Ernakulam	7	86	8.14	3302	1842	3996	37260	2101	51423	40562	2079	55419
7	Trichur	18	74	24.32	14469	2289	21760	45024	1901	56236	59493	1995	77996
8	Palghat	9	77	11.69	9610	3370	21277	72601	3029	144464	82211	3068	163741
9	Malappuram	15	69	21.74	7860	1965	10147	28294	2112	39270	36154	2080	49417
10	Kozhikode	11	68	16.18	5657	2007	7459	29305	1892	36436	34962	1911	43895
11	Cannanore	18	107	16.82	4904	2434	7842	24252	2034	32408	29156	2101	40250
	STATE	144	901	15.98	62173	2425	99052	321533	2318	489777	383706	2336	588829

TABLE 2.2

Estimated Area, mean yield and production of high yielding varieties of paddy during winter 1975 and 1976

Sl. No.	District	Area in hectares		Mean yield of dry paddy (kgs./hect.)		Production of rice in tonnes	
		1975	1976	1975	1976	1975	1976
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Trivandrum	2307	2043	2514	2444	3810	3280
2	Quilon	576	1904	1878	2186	711	2735
3	Alleppey	3295	2491	2257	2841	4886	4650
4	Kottayam	6187	9784	2450	2447	9959	15730
5	Idukki	2813	149	3295	1797	6090	176
6	Ernakulam	5453	3302	2930	1842	10497	3996
7	Trichur	7336	14469	2798	2289	13486	21760
8	Palghat	4015	9610	2909	3370	7674	21277
9	Malappuram	8861	7860	2311	1965	13454	10147
10	Kozhikode	5687	5657	1969	2007	7357	7459
11	Cannanore	4458	4904	2020	2434	5916	7842
	STATE	50988	62173	2503	2425	83840	99052

TABLE 2.3

Distribution of fields with high yielding varieties of paddy according to the varieties raised during winter 1976

Sl. No.	District	No. of experiments conducted		No. of experiments to total	No. of experimental plots under different H.Y.V.										
		HYV	Total		Thiruv.	Jaya Culture 28	IR-8	Jyothi	Aswathy	Bharathy	Fohini	IR-20	Pankaj	Thai-chung	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1	Trivandrum	7	70	10.00	2	5	..	..	..	..	..	..	..	..	..
2	Quilon	7	107	6.54	..	3	2	..	1	..	..	..	1	..	..
3	Alleppey	11	104	10.58	..	5	..	..	6	..	..	..	..	..	..
4	Kotrayam	40	77	51.95	..	1	1	..	29	1	6	1	1	..	..
5	Idukki	1	62	1.61	1	..	..	..	..	..	..	..	..	..	..
6	Punalakulam	7	86	8.14	1	4	..	1	..	..	1	..	..	..	..
7	Trichur	18	74	24.32	4	5	..	2	4	..	1	..	..	2	..
8	Palghat	9	77	11.69	..	4	1	..	..	..	..	..	4	..	..
9	Malappuram	15	69	12.74	10	1	1	2	1	..	..	..	..	..	..
10	Kozhikode	11	68	16.18	3	3	1	..	..	..	..	..	..	..	4
11	Cannanore	18	107	16.82	5	4	4	4	..	1	..	..	..	..	..
	STATE	144	901	15.98	26	35	10	9	41	2	8	1	6	2	4

TABLE No. 2.4

Average yield of high yielding varieties winter crop of paddy—1976

(Dry Paddy in Kg/Ha)

District	Tri- veni	Jaya	Cul- ture 28	I.R.8	Jyothi	I.R. 20	Aswa- thi	Bha- rathy	Rohi- ni	Thy- chung	Pan- kaj
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trivandrum	2697	2343	..	..	..	..	..	..	..	..	..
Quilon	..	1758	2414	..	2538	2664	..	..	..	..	..
Alleppey	..	2110	..	..	3451	..	..	..	..	..	..
Kottayam	..	4176	2046	..	2467	1768	536	2637	2001	..	..
Idikki	1797	..	..	..	..	..	..	..	..	..	..
Ernakulam	2119	1850	..	2052	..	..	..	1327	..	..	..
Trichur	1622	2702	..	2528	2190	..	..	2185	..	..	2600
Palghat	..	3328	2590	..	..	3608	..	..	..	..	..
Malappuram	1815	1477	3577	1935	2411	..	..	..	..	..	..
Kozhikode	1375	1740	881	..	..	..	..	..	..	..	2963
Cannanore	1602	2893	2318	3305	..	..	1737	..	..	..	..
State average	1861	2438	2304	2455	2611	2680	1136	2050	2001	2963	2600

TABLE 2.5

District-wise yield rate for High Yielding and other varieties of paddy according to cultural practices during winter 1976.

Irrigated

District	Chemically manured			Other manured			Not manured			Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)
	Variety	No. of experi- ments	Mean yield of dry paddy kgs./hect.	No. of experi- ments	Mean yield of dry paddy kgs./hect.	No. of experi- ments	Mean yield of dry paddy kgs./hect.	No. of experi- ments	Mean yield of dry paddy kgs./hect.	No. of experi- ments	Mean yield of dry paddy kgs./hect.
Trivandrum	H	2	3152	..	..	..	..	..	..	2	3152
	H	24	2563	..	..	..	..	..	..	27	2495
	T	26	2608	3	1951	..	..	..	..	29	2540
	O	1	2412	..	..	..	..	..	..	1	2412
	H	23	2904	..	..	..	..	..	..	25	2826
	O	24	2884	2	1930	..	..	..	..	26	2810
	H	2	2653	..	..	..	..	..	..	2	2653
	O	10	2693	..	..	..	..	..	..	10	2693
	T	12	2686	..	..	..	..	..	..	12	2686
	H	21	2465	..	..	..	..	..	..	21	2465
	O	11	2504	..	..	..	..	..	..	11	2504
	T	32	2478	..	..	..	..	..	..	32	2478
	H	..	..	..	..	..	..	..	..	..	..
	O	7	2502	..	..	..	..	..	..	..	..
	T	7	2502	6	3037	..	..	..	..	3	2619
	H	7	1842	6	3037	..	..	..	..	3	2619
	H	7	1842	..	..	..	..	..	..	16	2725
	H	7	1842	..	..	..	..	..	..	16	2725
	H	7	1842	..	..	..	..	..	..	7	1842

Un irrigated

District	Chemically manured			Other manured			Total			Treated with pesticides			Not treated with pesticides		
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments	Mean yield of dry paddy kgs./hect.	No. of experiments
Trivandrum	5	2161	..	..	..	..	5	2161	7	2444	..	..	..	..	..
	34	2715	..	1755	..	..	36	2661	34	2684	..	..	..	29	2480
	39	2644	2	1755	..	..	41	2600	41	2643	..	..	..	29	2480
Quilon	6	2148	..	..	..	..	6	2148	4	2381	..	..	..	3	1926
	58	2678	17	2087	..	..	75	2544	25	2919	..	..	..	75	2513
	64	2628	17	2087	..	..	81	2515	29	2845	..	..	..	78	2490
Alleppey	8	3147	1	769	..	..	9	2833	10	3048	..	..	..	1	769
	64	1995	13	1011	6	1170	83	1782	40	2263	..	..	..	53	1591
	72	2123	14	994	6	1170	92	1890	50	2420	..	..	..	54	1576
Kottayam	18	2523	1	731	..	..	19	2428	38	2505	..	..	..	22	1366
	23	2184	1	992	2	1060	26	2051	34	2235	..	..	..	3	1630
	41	2333	2	862	2	1060	45	2210	72	2378	..	..	..	5	1524
Idukki	..	..	1	1797	..	..	1	1797	1	1797	..	..	..	..	..
	34	2772	9	2226	2	2646	45	2657	51	2665	..	..	..	10	2726
	34	2772	10	2183	2	2646	46	2638	52	2648	..	..	..	10	2726
	..	..	..	..	..	..	..	..	6	1796	..	..	..	1	2119

TABLE 2.5 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ernakulam	O	52	2153	8	2105	5	1795	65	2120
	T	59	2116	8	2105	5	1795	72	2093
Trichur	H	8	2331	1	3553	..	..	9	2467
	O	9	1887	3	1827	..	..	12	1872
Palghat	T	17	2096	4	2258	..	..	21	2127
	H	9	3370	..	..	..	..	9	3370
Malappuram	O	41	3162	5	2321	..	..	46	3071
	T	50	3199	5	2321	..	..	55	3120
Kozhikode	H	7	1952	..	..	..	..	7	1952
	O	6	1972	2	2199	..	..	8	2029
Cannanore	T	13	1961	2	2199	..	..	15	1993
	H	3	1540	..	..	..	..	3	1540
Kozhikode	O	1	1077	4	1491	..	..	5	1409
	T	4	1424	4	1491	..	..	8	1458
Cannanore	H	10	2585	..	..	..	..	10	2595
	O	14	2153	16	1665	..	..	30	1893
STATE	T	24	2333	16	1665	..	..	40	2066
	H	70	2454	1	3553	..	..	71	2470
STATE	O	198	2535	49	2018	8	2104	255	2422
	T	268	2514	50	2049	8	2104	326	2432

N.B. Mean yields are simple average.

TABLE 2.5 (Contd.)

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Ernakulam	8	2504	4	1552	2	2112	14	2176	50	2160	29	2078
	8	2504	4	1552	2	2112	14	2176	56	2121	30	2079
	8	2105	1	2158	..	..	9	2111	16	2332	2	1940
Trichur	17	1842	24	1516	3	1231	44	1622	23	1762	33	1616
	25	1926	25	1542	3	1231	53	1705	39	1996	35	1635
	..	..	..	..	..	..	..	..	8	3618	1	1387
Palghat	12	2359	10	2714	..	..	22	2521	43	3006	25	2698
	12	2359	10	2714	..	..	22	2521	51	3102	26	2648
	8	1977	..	..	..	..	8	1977	12	2161	3	1183
Malappuram	36	2223	10	1960	..	..	46	2166	35	2202	19	2041
	44	2178	10	1960	..	..	54	2138	47	2192	22	1924
	4	1401	4	2963	..	..	8	2182	9	2083	2	1654
Kozhikode	21	1623	28	1731	3	909	52	1640	10	1473	47	1651
	25	1587	32	1885	3	909	60	1712	19	1762	49	1651
	7	2287	1	1953	..	..	8	2245	18	2434	..	..
Cannanore	28	2149	30	1807	1	1504	59	1964	54	2020	35	1918
	35	2177	31	1812	1	1504	67	1998	72	2124	35	1818
	64	2321	9	2140	..	..	73	2299	129	2478	15	1568
STATE	335	2310	148	1792	19	1399	502	2122	399	2369	358	2061
	399	2312	157	1812	19	1399	575	2144	528	2396	373	2041

H—High yielding variety

O—Other variety

T—All variety

TABLE 3.1

Response percentage—Winter Paddy 1976

Sl. No.	District	No. of experiments		Percentage response
		Planned	Analysed	
(1)	(2)	(3)	(4)	(5)
1.	Trivandrum	72	70	97
2.	Quilon	108	107	99
3.	Alleppey	108	104	96
4.	Kottayam	78	77	99
5.	Idukki	63	62	98
6.	Ernakulam	108	86	80
7.	Trichur	90	74	82
8.	Palghat	90	77	86
9.	Malappuram	72	69	96
10.	Kozhikode	72	68	94
11.	Cannanore	108	107	99
	STATE	969	901	93

TABLE 3.2

Details of Non-response—Winter Paddy 1976

Sl. No	District	No. of experiments		No. of experiments lost due to				
		Planned	Analysed	Primary workers' absence (leave transfer etc.)	Prior harvest by cultivators	Rejected at the analysed stage	Other reasons	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	Trivandrum	72	70	..	2	..	..
2.	Quilon	108	107	..	1	..	..
3.	Alleppey	108	104	2	2	..	..
4.	Kottayam	78	77	..	1	..	..
5.	Idukki	63	62	..	1	..	..
6.	Ernakulam	108	86	..	3	..	14	
7.	Trichur	90	74	..	2	..	13	
8.	Palghat	90	77	..	1	..	13	
9.	Malappuram	72	69	..	3	..	..
10.	Kozhikode	72	68	..	4	..	..
11.	Cannanore	108	107	..	1	..	..
	STATE	969	901	2	26	..	40	

TABLE 3.3
**Workload of primary workers—district-wise allocation
 during winter—1976**

Name of district	No. of primary workers			Total
	4 experi- ments or less	5 to 8 ex- periments	More than 8 experi- ments	
(1)	(2)	(3)	(4)	(5)
Trivandrum	16	4	..	20
Quilon	14	8	2	24
Alleppey	8	11	2	21
Kottayam	8	6	2	16
Idukki	1	2	3	6
Ernakulam	10	7	+	21
Trichur	1	2	7	10
Palghat	3	1	6	10
Malappuram	1	3	5	9
Kozhikode	6	3	4	13
Cannanore	..	9	4	13
STATE	68	56	39	163

TABLE 3.4
**Workload of primary workers according to performance
 during winter—1976**

Name of district	No. of primary workers			Total
	4 experi- ments or less	5 to 8 ex- periments	More than 8 experi- ments	
(1)	(2)	(3)	(4)	(5)
Trivandrum	12	6	..	18
Quilon	13	4	5	22
Alleppey	8	9	3	20
Kottayam	7	7	2	16
Idukki	1	2	3	6
Ernakulam	10	11	..	21
Trichur	1	2	7	10
Palghat	3	1	6	10
Malappuram	1	4	4	9
Kozhikode	4	7	1	12
Cannanore	2	8	4	14
STATE	62	61	35	158

TABLE 3.5
No. of experiments inspected during Winter—1976

Sl. No.	District	N. of experiments analysed	No. of experiments inspected at						Percentage of experiments inspected at			
			Harvest stage by		Pre harvest stage by		Post harvest stage by		Harvest stage	Preharvest stage	Post harvest stage	
			DSO	SI	DSO	SI	DSO	SI				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
1.	Trivandrum	70	10	21	5	16	1	..	..	44.3	30.0	1.4
2.	Quilon	107	7	33	..	21	..	7	..	37.4	19.6	6.5
3.	Alleppey	104	7	31	10	22	1	3	3	36.5	30.8	3.8
4.	Kottayam	77	7	22	..	26	2	7	7	37.7	33.8	11.7
5.	Idukki	62	6	14	1	5	..	3	3	32.3	9.7	4.8
6.	Ernakulam	86	5	32	..	13	..	1	1	43.0	15.1	1.2
7.	Trichur	74	12	21	13	20	5	1	1	44.6	44.6	8.1
8.	Palghat	77	2	20	1	16	2	2	2	28.6	22.1	5.2
9.	Malappuram	69	7	17	..	10	1	2	2	34.8	14.5	4.3
10.	Kozhikode	68	6	20	..	16	..	..	..	38.2	23.5	..
11.	Cannanore	107	10	34	..	19	2	4	4	41.1	17.8	5.6
State		901	79	265	30	184	14	30	30	38.2	23.8	4.9

DSO—District Statistical Officer and Additional District Statistical Officer
SI.—Taluk Statistical Inspector

TABLE 4.1

**Estimated Area, Mean yield and production of Rice
Summer Crop of Paddy—1976**

Taluk and District	No. of experiments	Area in hect.	Mean yield of dry paddy in kg./hect.	Standard error	Production of rice in tonnes
(1)	(2)	(3)	(4)	(5)	(6)
1. Neyyattinkara	16	391	1914	167	492
2. Trivandrum	18	479	1877	211	591
3. Nedumangad	18	133	1496	117	131
4. Chirayinkil	18	651	1225	136	524
TRIVANDRUM DISTRICT	70	1654	1599	92	1738
5. Quilon	18	317	1259	146	262
6. Kottarakkara	6	126	1754	990	145
7. Kunnathur	12	157	1891	199	195
8. Pathanamthitta	18	..	..	..	..
9. Pathanapuram	..	78	1928	380	99
10. Karunagappally	12	478	2166	365	680
QUILON DISTRICT	66	1156	1818	193	1381
11. Karthigappally	18	3508	3738	392	8615
12. Mavelikkara	18	4444	2634	452	7691
13. Chengannur	17	2839	3344	276	6237
14. Thiruvalla	17	3202	3333	307	7012
15. Kuttanad	16	24947	3049	301	49974
16. Ambalapuzha	16	3798	3650	338	6613
17. Shertalai	..	..	..	..	..
ALLEPPEY DISTRICT	102	42738	3068	191	86142
18. Changanacherry	17	3802	4182	510	10446
19. Kanjirappally	..	..	..	..	..
20. Kottayam	18	11171	3333	268	24462
21. Vaikom	18	2069	2680	321	3643
22. Meenachil	9	440	2902	214	839
KOTTAYAM DISTRICT	62	17482	3429	208	39390
23. Peermade	3	52	3053	..	104
24. Devicolam	..	..	..	..	..
25. Udumbanchola	..	..	..	..	..
6. Thedupuzha	..	..	..	..	..
IDIKKI DISTRICT	3	52	3053	..	104

(1)	(2)	(3)	(4)	(5)	(6)
27. Kothamangalam	17	324	1523	61	324
28. Muvattupuzha	18	401	2108	210	555
29. Cochin	..	..	..	..	..
30. Kanayannur	17	367	2070	178	499
31. Kunnathunad	18	1716	1755	137	1979
32. Alwaye	17	3601	2310	125	5465
33. Parur	16	3876	1798	161	4579
ERNAKULAM DISTRICT	103	10285	1983	79	13401
34. Cranganore	6	38	1817	13	45
35. Mukundapuram	18	4742	2134	98	6648
36. Trichur	17	6617	2060	165	8956
37. Thalappally	15	1342	3087	603	2722
38. Chowghat	18	1580	3302	332	3428
TRICHUR DISTRICT	74	14319	2317	107	21799
39. Chittur	15	265	2081	311	362
40. Alathur	15	275	3461	546	625
41. Palghat	17	150	3644	235	359
42. Ottappalam	18	1134	2261	559	1685
43. Mannarghat	18	312	2095	220	429
PALGHAT DISTRICT	83	2136	2465	310	3460
44. Perinthalmanna	17	611	3022	340	1213
45. Ponnani	17	3476	2468	410	5636
46. Tirur	18	1593	2994	285	3134
47. Ernad	16	523	1948	118	669
MALAPPURAM DISTRICT	68	6203	2614	244	10652
48. Kozhikode	16	742	2165	629	1055
49. Quilandy	18	342	1648	256	370
50. Badagara	17	188	2471	231	305
51. South Wynad	18	2797	2593	207	4765
KOZHIKODE DISTRICT	69	4069	2429	184	6495
52. North Wynad	18	1008	2518	483	1668
53. Tellicherry	18	308	1900	187	384
54. Cannanore	18	23	1482	257	22
55. Taliparamba	18	38	1632	127	41
56. Hosdurg	16	476	2083	197	651
57. Kasargode	18	2084	2660	305	3642
CANNANORE DISTRICT	106	3937	2477	205	6408
STATE	806	104031	2794	89	190970

TABLE 4.2
 Estimated area, mean yield and production of rice relating to summer paddy
 1975 and 1976

Sl. No.	District	Area (hectares)		Mean yield of dry paddy (in kgs/hectare)		Production rice in tonnes	
		1975	1976	1975	1976	1975	1976
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Trivandrum	1177	1654	1975	1599	1527	1738
2.	Quilon	1156	1156	1660	1818	1261	1381
3.	Alleppey	42369	42738	3327	3068	92603	86142
4.	Kottayam	17297	17482	3409	3429	38747	39390
5.	Idukki	52	52	1974	3053	67	104
6.	Ernakulam	10215	10285	2162	1983	14509	13401
7.	Trichur	14266	14319	2329	2317	21833	21799
8.	Palghat	1943	2136	2547	2465	3252	3460
9.	Malappuram	5461	6203	3215	2614	11535	10652
10.	Kozhikode	3825	4069	1983	2429	4983	6495
11.	Cannanore	3942	3937	2271	2477	5883	6408
	STATE	101703	104031	2936	2794	196200	190970

TABLE 4.3

**Summer Crop of Paddy 1976—Analysis of variance of
plot yield pooled for the State,
in 1/400 of an Hectare**

Source of variation	Sum of squares	Degrees of freedom	Mean sum of square (variance)	Variance ratio calculated
(1)	(2)	(3)	(4)	(5)
Between taluk	2726.23	49	55.637	9.051**
Between karas within taluk	2809.98	229	12.271	1.996**
Within karas within taluks	3239.46	527	6.147	..
All	8775.67	805	..	..

** Significant at 1% level.

TABLE 4.4
 Summer Crop of paddy, 1976
 Frequency distribution of plot yield (Wet paddy)

Sl. No.	Class interval (kgs./hectares)	Districts													
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
		Trivandrum	Quilon	Alleppey	Kottayam	Idukki	Ernakulam	Trichur	Palghat	Malappuram	Kozhikode	Cannanore	State		
1.	Below 500	..	3	3	1	..	4	2	1	2	2	4	22		
2.	500—699	2	4	2	..	..	2	..	1	2	..	..	13
3.	700—899	3	1	2	..	..	3	..	1	2	4	5	22
4.	900—1099	4	5	1	..	..	..	1	1	1	..	4	17
5.	1100—1299	10	5	1	1	..	5	3	5	1	5	7	43		
6.	1300—1499	5	4	..	1	..	5	3	4	..	5	8	35		
7.	1500—1699	9	5	2	3	..	7	2	3	3	8	11	53		
8.	1700—1899	5	4	1	..	..	12	2	4	3	2	9	42
9.	1900—2099	7	9	2	..	..	6	4	6	3	5	8	51
10.	2100—2299	5	2	5	1	..	16	5	7	6	2	2	53		
11.	2300—2499	4	4	4	2	..	11	2	5	5	8	10	55		
12.	2500—2699	3	3	5	4	1	5	3	7	7	1	6	45		
13.	2700—2899	4	5	7	4	..	4	9	4	3	6	9	55		
14.	2900—3099	3	3	8	4	..	1	10	3	2	3	10	47		
15.	3100—3299	3	2	8	4	..	8	6	1	3	3	2	40		
16.	3300—3499	..	2	6	2	..	4	..	4	5	3	2	28		
17.	3500—3699	1	1	7	2	1	3	8	2	5	2	1	33		
18.	3700—3899	1	2	6	4	..	4	1	2	4	1	..	25		
19.	3900—4099	..	..	5	2	1	1	2	3	1	3	..	18
20.	4100 and above	1	2	27	24	..	2	10	19	10	6	8	109		
21.	All	70	66	102	62	3	103	74	83	68	69	106	806		

TABLE No. 4:5

The Results of driage Experiments—Summer paddy, 1976

Sl. No.	District	No. of driage experi- ments		Total yield collected for driage experiments (kgms.)	Total yield after driage operation (kgms.)	Driage ratio (percentage)
		(3)	(4)				(5)	(6)	(7)
1.	Trivandrum	12	12	3,000	2,543	84.8
2.	Quilon	11	11	2,718	2,388	87.9
3.	Alleppey	18	18	4,500	4,158	92.4
4.	Kottayam	10	11	2,740	2,513	91.7
5.	Idukki	1	1	0,250	0,225	90.0
6.	Ernakulam	18	17	4,250	3,684	86.7
7.	Trichur	13	13	3,250	2,794	86.0
8.	Palghat	15	12	3,000	2,787	92.9
9.	Malappuram	12	12	3,000	2,821	94.0
10.	Kozhikode	12	12	2,992	2,761	92.3
11.	Cannanore	18	18	4,500	4,130	91.8
	STATE	140	137	34,200	30,804	90.1

TABLE No. 4.6

Independent estimate of mean yield of paddy based on harvest stage inspection during Summer 1976

Sl. No.	District	No. of experiments			Mean yield of paddy (kgms./hect.)		Drriage ratio used for columns 5 & 6
		Planned for harvest stage Inspection	Inspected at harvest stage	Before drriage	After drriage		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1.	Trivandrum	35	26	2055	1743	0.848	
2.	Quilon	35	24	2091	1838	0.879	
3.	Alleppey	51	32	3411	3152	0.924	
4.	Kottayam	32	23	3650	3347	0.917	
5.	Idukki	3	3	3392	3053	0.900	
6.	Ernakulam	51	46	2361	2047	0.867	
7.	Trichur	39	29	2852	2453	0.860	
8.	Palghat	42	33	2836	2635	0.929	
9.	Malappuram	35	24	2887	2714	0.940	
10.	Kozhikode	35	26	2540	2344	0.923	
11.	Cannanore	51	45	2237	2054	0.918	
	State	409	311	2662	2398	0.901	

TABLE 4.7

Estimated mean yield of dry paddy (Kgs./hect.) during
Summer Season From 1971 to 1976

Taluk and District		1971	1972	1973	1974	1975	1976
(1)		(2)	(3)	(4)	(5)	(6)	(7)
1.	Neyyattinkara	2009	2380	2072	1988	2211	1914
2.	Trivandrum	1795	1708	1264	1895	2109	1877
3.	Nedumangad	1567	2262	1441	1585	1764	1496
4.	Chirayinkil	2273	1587	711	999	1789	1225
	TRIVANDRUM DISTRICT	1939	1867	1192	1521	1975	1599
5.	Quilon	2967	1472	1637	1646	1141	1259
6.	Kottarakkara	2671	962	1036	752	1385	1754
7.	Kunnathur	1654	..	2052	1306	1749	1891
8.	Pathanapuram	..	..	..	..	..	..
9.	Pathanamthitta	3545	1938	1305	1819	2779	1928
10.	Karunagappally	2653	2188	2195	1561	1865	2166
	QUILON DISTRICT	2631	1765	1834	1480	1660	1818
11.	Karthigappally	4118	2631	4286	2577	3233	3738
12.	Mavelikara	2852	3142	2886	2845	3077	2634
13.	Chengannur	3857	3834	4609	2205	3384	3344
14.	Thiruvalla	3849	3084	2484	2102	3151	3333
15.	Kuttanad	4494	4494	3034	2682	3495	3049
16.	Ambalapuzha	3098	3059	2712	2260	2685	2650
17.	Sherthalai	..	..	..	..	..	..
	ALLEPPEY DISTRICT	3424*	3447*	2885*	2580	3327	3068
18.	Changanacherry	3219	4806	4062	3474	4850	4182
19.	Kanjirappally	..	2677	..	..	..	..
20.	Kottayam	2783	3509	3267	1425	3199	3333
21.	Vaikom	3236	2663	2741	1340	2342	2680
22.	Meenachil	3080	3225	2779	1859	2300	2902
	KOTTAYAM DISTRICT	2938	3655	3351	1846	3409	3429
23.	Peermade	..	..	1872	1165	1974	3053
24.	Devikulam	..	..	..	..	..	..
25.	Udumbanchola	..	..	..	..	..	..
26.	Thodupuzha	..	..	..	..	..	..
	IDIKKI DISTRICT	..	..	1872	1165	1974	3053

*Pooled estimates.

TABLE—4.7 (Contd....)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
27. Kothamangalam	} 2147	2314	1483	1506	1977	1523	
28. Muvattupuzha							2037	2108
29. Cochin	..	..	..	..	..	..
30. Kanayannur	3087	3171	1029	791	1739	2070	
31. Kunnathunad	1836	1950	1701	1725	1899	1755	
32. Alwaye	2552	2275	2218	1878	1984	2310	
33. Parur	2547	1684	1719	1768	2508	1798	
ERNAKULAM DISTRICT	2413	2026	1855	1747	2162	1983	
34. Crangannore	2677	1801	1947	1435	1750	1817	
35. Mukundapuram	3104	2698	2384	2052	1974	2134	
36. Trichur	2312	2252	3012	1689	2484	2061	
37. Thalappilly	3791	3156	5163	2398	3235	3087	
38. Chowghat	2346	2529	2007	1419	2069	3302	
TRICHUR DISTRICT	2753	2538	2857	1841	2329	2317	
39. Chittur	..	3378	2099	2553	3186	2081	
40. Alathur	..	3378	2099	2375	3489	3461	
41. Palghat	..	3378	2099	1817	3510	3644	
42. Ottappalam	..	3378	2099	2290	2021	2261	
43. Mannarghat	..	..	..	1749	2461	2095
PALGHAT DISTRICT	..	3377	2099	2212	2547	2465	
44. Perinthalmanna	..	2219	2481	1816	1832	3022	
45. Ponnani	2327	5647	6635	1753	3677	2468	
46. Tirur	2010	3399	5624	2568	3244	2994	
47. Ernad	..	2181	2212	1615	1929	1948	
MALAPPURAM DISTRICT	2221	4369	5494	1981	3215	2614	
48. Kozhikode	4108	3279	3036	2423	2412	2165	
49. Quilandy	..	2138	2137	2775	2136	1648	
50. Badagara	..	2138	2130	2661	3331	2471	
51. South Wynad	1650	2432	2273	2180	1789	2593	
KOZHIKODE DISTRICT	2107	2526	2376	2286	1983	2429	
52. North Wynad	2229	1952	2425	1906	2243	2518	
53. Tellicherry	..	2225	2227	1779	1618	1900	
54. Cannanore	..	2225	2215	2100	2005	1482	
55. Taliparamba	..	2225	2215	2200	1402	1632	
56. Hosdurg	1805	2564	2119	2195	2394	2083	
57. Kasargode	2696	1977	1904	1887	2370	2660	
CANNANORE DISTRICT	2429	2093	2097	1940	2271	2477	
STATE	2984*	3151*	2918*	2168	2936	2794	

* Pooled estimates.

TABLE 5.1

Estimated area, mean yield and production of high yielding and other varieties of paddy during summer 1976

Sl. No.	District	No. of experiments conducted	Percentage of H. Y. V. of expts. to total No. of experiments											
			High yielding varieties			Other varieties			All varieties					
H. Y. V.			(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total						Area (Hect)	Mean yield of dry paddy Kgs/Hect	Production of rice in tonnes	Area in (Hect)	Mean yield of dry paddy in Kg/Hect	Production of rice in tonnes	Area in (Hect)	Mean yield of dry paddy in Kg/Hect	Production of rice in tonnes
1.	Trivandrum	58	70	82.86	1371	1699	1530	283	1119	208	1654	1599	1738	
2.	Quilon	8	66	12.12	140	2233	205	1016	1762	1176	1156	1818	1381	
3.	Alleppey	86	102	84.31	36032	3246	76843	6706	2111	9299	42738	3068	86142	
4.	Kottayam	35	62	56.45	9869	3833	24853	7613	2906	14537	17482	3429	39390	
5.	Idukki	..	3	..	..	..	..	52	3053	104	52	3053	104
6.	Ernakulam	31	103	30.10	3096	2168	4410	7189	1904	8991	10285	1983	13401	
7.	Trichur	52	74	70.27	10062	2792	18457	4257	1195	3342	14319	2317	21799	
8.	Palghat	46	83	55.42	1184	3104	2415	952	1671	1045	2136	2465	3460	
9.	Malapuram	38	68	55.88	3466	2765	6296	2737	2422	4356	6203	2614	10652	
10.	Kozhikode	45	69	65.22	2654	2335	4071	1415	2607	2424	4069	2429	6495	
11.	Cannanore	41	106	38.68	1523	2399	2400	2414	2527	4008	3937	2477	6408	
	STATE	440	806	54.59	69397	3103	141480	34634	2175	49490	104031	2794	190970	

TABLE 5.2

Estimated area, mean yield and production of high yielding varieties of paddy during summer 1975-76

Sl. No.	District	Area in hectares			Mean yield dry paddy (kg./hect.)		Production of Rice (Tonnes)	
		1975	1976	1975	1976	1975	1976	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	Trivandrum	785	1371	2053	1699	1059	1530	
2.	Quilon	57	140	1947	2233	73	205	
3.	Alleppey	15253	36032	3517	3246	35245	76843	
4.	Kottayam	4613	9869	3390	3833	10274	24853	
5.	Koorkk	..	..	..	..	..	..
6.	Ernakulam	3366	3096	2167	2168	4792	4410	
7.	Trichur	6945	10062	2932	2792	13378	18457	
8.	Palghat	985	1184	3400	3104	2200	2415	
9.	Malappuram	2896	3466	3261	2765	6205	6296	
10.	Kozhikode	2495	2654	2790	2335	4573	4071	
11.	Cannanore	1733	1523	2276	2399	2591	2400	
	STATE	39128	69397	3127	3103	80390	141480	

Distribution of fields with high yielding varieties of paddy according to the varieties raised during summer 1976

Sl. No.	District	No. of experiments conducted		percent age of H. Y. V. experiments to total No. of experiments		No. of experimental plots under different H. Y. Varieties										
		(3)	(4)	(5)	(6)	Bharathy	Jyothi	Jaya	Aswathy	Sabari	Rohini	Annapurna (Cul-28)	I. R. 20	I. R. 8	Thaichung	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
1.	Trivandrum	58	70	82.86	36	2	2	12	1	1	1	2	1	..	..
2.	Quilon	8	66	12.12	3	..	3	1	..	..	..	1	..	..	..
3.	Alleppey	86	102	84.31	13	1	54	15	..	..	..	1	1	1	..
4.	Kottayam	35	62	56.45	1	9	21	4	..	..	..	..	..	..	..
5.	Idukki	..	3	..	..	..	..	..	..	..	..	..	..	..	..
6.	Ernakulam	31	103	30.10	22	1	2	2	..	..	..	..	..	..	4
7.	Trichur	52	74	70.27	26	3	5	5	..	..	3	2	..	..	8
8.	Palghat	46	83	55.42	21	4	3	8	2	..	..	..	..	..	2
9.	Malappuram	38	68	55.88	24	..	1	6	1	..	..	..	..	..	1
10.	Kozhikode	45	69	65.22	20	..	..	2	..	..	..	..	..	..	8
11.	Cannanore	41	106	38.68	12	..	..	7	..	..	..	2	8	1	2
	STATE	440	806	54.59	178	20	19	62	4	1	6	38	3	26	11	

TABLE 5.4

Average yield of high yielding varieties—Paddy during summer 1976

District	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Thriveni	Bharathi	Jyothi	Jaya	Aswathi	Sabari	Rohini	Annappurna (Cul-28)	I.R. 20	I.R. 8	Thaichung 65	
Trivandrum	1687	1929	2688	1508	1587	3190	1915	1492	817	..	..	..
Quilon	1555	..	3467	1795	..	..	..	581	..	..	..	..
Alleppey	3501	4755	3394	2570	..	..	..	1554	1979	3570	..	..
Kottayam	4074	3649	3870	3989	..	..	..	..	..	..	..	..
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	2094	3435	2327	2814	..	..	..	..	..	1854	..	..
Trichur	2806	2625	2852	3434	..	..	1794	1402	..	3091	..	..
Palghat	2785	4677	4107	3132	2762	..	..	2791	..	2976	..	..
Malappuram	2376	..	5396	3723	3613	..	..	2442	..	4493	..	..
Kozhikode	2304	..	..	2755	..	..	..	1673	..	3269	2782	..
Cannanore	1969	..	..	3307	..	..	2349	1604	2826	539	2273	..
STATE	2515	3512	3513	2903	2654	3190	2019	1692	1874	2827	2527	..

TABLE No. 5.5

District-wise yield rate for High Yielding and other varieties of paddy according to cultural practices during Summer 1976

District	Variety	Irrigated					Total		
		Chemically manured		Other manured		Not manured		Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.
Trivandrum	H	52	1738	..	..	1	1915	53	1741
	O	12	1237	..	..	..	..	12	1237
	T	64	1644	..	..	1	1915	65	1648
Quilon	H	5	2700	..	..	..	..	5	2700
	O	34	2013	3	1478	..	..	37	1970
	T	39	2101	3	1478	..	..	42	2057
Alleppey	H	44	3571	..	..	..	..	44	3571
	O	7	3033	..	..	..	..	7	3033
	T	51	3497	..	..	..	..	51	3497
Kottayam	H	20	3408	..	..	..	..	20	3408
	O	19	2741	..	..	..	..	19	2741
	T	39	3083	..	..	..	..	39	3083
Idukki	H	..	..	..	..	..	..	..	..
	O	1	3600	..	..	..	..	..	..
	T	1	3600	..	..	..	..	1	3600

TABLE 5.5—(Contd.)

District	Un-irrigated												
	chemically manured			other manured			Not manured		Total		Treated with pesticides		Not treated with pesticides
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Variety		No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.	No. of experiments	Mean yield of dry paddy in kg./hect.
Trivandrum	H	4	1296	1	1085	..	..	5	1254	53	1715	5	1531
	O	..	..	..	..	..	..	..	..	10	1335	2	749
	T	4	1296	1	1085	..	..	5	1254	63	1655	7	1308
Quilon	H	2	1285	..	..	1	1795	3	1455	6	2396	2	1742
	O	13	1398	2	1505	6	774	21	1230	35	1907	23	1390
	T	15	1383	2	1505	7	920	24	1258	41	1979	25	1418
Alleppey	H	41	2923	1	2220	..	..	42	2906	82	3264	4	2888
	O	7	2222	2	1713	..	..	9	2109	13	2948	3	629
	T	48	2821	3	1882	..	..	51	2765	95	3221	7	1920
Kottayam	H	15	4399	..	..	..	..	15	4399	35	3333	..	..
	O	8	2404	..	..	..	..	8	2404	27	2641	..	..
	T	23	3705	..	..	..	..	23	3705	62	3314	..	..
Idukki	H	..	..	..	..	..	..	..	..	..	..	..	..
	O	..	..	2	2779	..	..	2	2779	3	3053	..	..
	T	..	..	2	2779	..	..	2	2779	3	3053	..	..

TABLE 5.5—(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ernakulam	H	31	2168	..	..	..	..	31	2168
	O	66	1936	6	615	..	..	72	1826
	T	97	2010	6	615	..	..	103	1929
Trichur	H	50	2802	..	..	..	..	50	2802
	O	17	2027	4	2232	..	..	21	2066
	T	67	2605	4	2232	..	..	71	2584
Palghat	H	43	3193	3	1829	..	..	46	3104
	O	19	2451	7	2258	..	..	26	2399
	T	62	2966	10	2129	..	..	72	2849
Malappuram	H	34	2838	1	2482	..	..	35	2828
	O	21	2714	7	1766	..	..	28	2477
	T	55	2791	8	1855	..	..	63	2672
Kozhikode	H	33	2398	1	775	..	..	34	2350
	O	2	2528	3	2288	..	..	5	2384
	T	35	2405	4	1910	..	..	39	2354
Cannanore	H	15	3207	1	2587	1	734	17	3025
	O	22	2225	15	1460	3	1217	40	1863
	T	37	2623	16	1530	4	1096	57	2210
STATE	H	327	2745	6	1888	2	1324	335	2721
	O	220	2182	45	1644	3	1217	268	2081
	T	547	2519	51	1673	5	1260	603	2436

TABLE 5.5—(Contd.)

(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Ernakulam	H	..	..	..	..	..	..	..	..	28	2219	3	1683
	O	..	..	..	..	..	..	..	..	56	1916	16	1512
	T	..	..	..	..	..	..	..	..	84	2017	19	1539
Trichur	H	2	2534	..	..	..	..	2	2534	52	2792	..	..
	O	1	1500	..	..	..	..	1	1500	20	2007	2	2374
	T	3	2189	..	..	..	..	3	2189	72	2574	2	2374
Palghat	H	..	..	..	..	..	..	..	..	41	3139	5	2822
	O	6	1503	5	1856	..	..	11	1664	18	1949	19	2401
	T	6	1503	5	1856	..	..	11	1664	59	2776	24	2489
Malappuram	H	2	2621	1	865	..	..	3	2035	33	2864	5	2112
	O	1	2324	1	1617	..	..	2	1970	20	2784	10	1762
	T	3	2522	2	1241	..	..	5	2009	53	2834	15	1879
Kozhikode	H	9	2677	2	535	..	..	11	2288	35	2376	10	2190
	O	15	2020	4	1428	..	..	19	1895	3	1957	21	2003
	T	24	2266	6	1130	..	..	30	2033	38	2343	31	2063
Cannanore	H	15	2347	9	1306	..	..	24	1956	34	2644	7	1213
	O	12	1787	12	1848	1	275	25	1756	41	1952	24	1599
	T	27	2098	21	1616	1	275	49	1854	75	2266	31	1512
STATE	H	90	2924	14	1214	1	1795	105	2685	399	2784	41	2020
	O	63	1866	28	1814	7	703	98	1768	246	2126	120	1733
	T	153	2488	42	1614	8	839	203	2242	645	2533	161	1806

H—High yielding variety

O—Other variety

T—All varieties

N.B.—All mean yields are simple averages

TABLE No. 6. 1
Response Percentage—Summer paddy 1976

Sl. No.	District	No. of Experiments		
		Planned	Analysed	Percentage response
(1)	(2)	(3)	(4)	(5)
1.	Trivandrum	72	70	97
2.	Quilon	66	66	100
3.	Alleppey	108	102	94
4.	Kottayam	63	62	98
5.	Idikki	3	3	100
6.	Ernakulam	108	103	95
7.	Trichur	78	74	95
8.	Palghat	87	83	95
9.	Malappuram	72	68	94
10.	Kozhikode	72	69	96
11.	Cannanore	108	106	98
	State	837	806	96

TABLE No. 6. 2
Details of non-response—Summer paddy 1976

Sl. No.	District	No. of experiments		No. of experiments lost due to		Rejected at the analysis stage	Other reasons
		Planned	Analysed	Primary workers' absence (leave transfer etc.)	Prior harvest by cultivators		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Trivandrum	72	70	..	2	..	..
2.	Quilon	66	66	..	..	..	1
3.	Alleppey	108	102	..	5	..	..
4.	Kottayam	63	62	..	1	..	..
5.	Idikki	3	3	..	..	..	..
6.	Ernakulam	108	103	..	5	..	..
7.	Trichur	78	74	..	3	..	1
8.	Palghat	87	83	..	2	1	1
9.	Malappuram	72	68	..	4	..	..
10.	Kozhikode	72	69	..	3	..	..
11.	Cannanore	108	106	..	2	..	..
	State	837	806	..	27	1	3

TABLE No. 6.3
Work load of primary workers—District-wise allocation
during summer 1976

Sl. No.	Name of district	No. of primary workers			Total
		4 experiments or less	5 to 8 experiments	More than 8 experiments	
(1)	(2)	(3)	(4)	(5)	(6)
1.	Trivandrum	14	5	..	19
2.	Quilon	6	5	2	13
3.	Alleppey	5	8	5	18
4.	Kottayam	3	6	2	11
5.	Idukki	1	..	..	1
6.	Ernakulam	2	8	6	16
7.	Trichur	..	5	5	10
8.	Palghat	3	1	7	11
9.	Malappuram	2	1	5	8
10.	Kozhikode	2	5	4	11
11.	Cannanore	..	..	11	11
	State	38	44	47	129

TABLE No. 6.4
Work load of primary workers—District-wise Performance
during Summer 1976

Sl. No.	District	No. of primary workers			Total
		4 experiments or less	5 to 8 experiments	More than 8 experiments	
(1)	(2)	(3)	(4)	(5)	(6)
1.	Trivandrum	14	5	..	19
2.	Quilon	6	5	2	13
3.	Alleppey	5	9	3	17
4.	Kottayam	3	7	1	11
5.	Idukki	1	..	..	1
6.	Ernakulam	1	10	4	15
7.	Trichur	..	7	3	10
8.	Palghat	4	4	4	12
9.	Malappuram	3	5	2	10
10.	Kozhikode	5	6	2	13
11.	Cannanore	1	1	9	11
	STATE	43	59	30	132

TABLE No. 6.5
Number of experiments inspected during Summer 1976

Sl. No.	District	No. of experiments analysed		No. of experiments inspected at						Percentage of experiments inspected at	
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				Harvest stage by	Pre-harvest stage by	Post-harvest stage by	Harvest stage	Pre-harvest stage	Post harvest stage		
				D.S.O	S.I	D.S.O	S.I	D.S.O	S.I		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1.	Trivandrum	70	8	18	2	23	2	..	37.1	35.7	2.9
2.	Quilon	66	1	23	..	8	..	4	36.4	12.1	6.1
3.	Alleppey	102	7	25	..	7	..	3	31.4	7.8	3.9
4.	Kottayam	62	3	20	..	11	4	7	37.1	17.7	17.7
5.	Idukki	3	2	1	..	1	..	..	100.0	66.7	0.0
6.	Ernakulam	103	8	38	..	8	..	1	44.7	7.8	1.0
7.	Trichur	74	4	25	..	13	2	1	39.2	21.6	4.1
8.	Palghat	83	3	30	..	20	..	3	39.8	24.1	1.2
9.	Malappuram	68	2	22	..	8	..	..	35.3	11.8	4.4
10.	Kozhikode	69	9	17	..	16	..	..	37.7	23.2	0.0
11.	Cannanore	106	12	33	..	26	4	6	42.5	24.5	9.4
	STATE	806	59	252	7	141	13	26	38.6	18.4	4.8

D.S.O : District Statistical Officer and Additional District Statistical Officer.

S.I : Taluk Statistical Inspector.

TABLE—No. 7.1

Season-wise area, mean yield and Production of high yielding varieties of paddy during 1975-76

Sl. No.	District	Area under H.Y.V. (Hects)			Total 1975-76	Mean yield of HYV (dry paddy in kg/hect)			Annual average 1975-76	Production of rice (in tonnes)			
		Autumn 1975	Winter 1976	Summer 1976		Autumn 1975	Winter 1976	Summer 1976		Total 1975-76			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Trivandrum	2450	2043	1371	5864	2494	2444	1699	2290	4014	3820	1530	8824
2.	Quilon	4952	1904	140	6636	2790	2186	2233	2605	8417	2735	205	11357
3.	Alleppey	12213	2491	36032	50736	2857	2341	3246	3132	22924	4650	76843	104417
4.	Kottayam	2464	9784	9869	22117	2803	2447	3833	3105	4538	15736	24853	45121
5.	Idukki	1625	149	..	1774	2224	1797	..	2188	2374	176	..	2550
6.	Ernakulam	16777	3302	3096	23175	2304	1842	2168	2220	25396	3996	4410	33802
7.	Trichur	3927	14469	10062	28458	2058	2289	2792	2435	5310	21760	18437	45527
8.	Palghat	31511	9610	1184	42305	3387	3370	3104	3375	70120	21277	2415	93812
9.	Malappuram	9836	7860	3466	21162	2532	1965	2765	2359	16362	10147	6296	32805
10.	Kozhikode	2992	5657	2654	11303	1657	2007	2335	1991	3257	7459	4071	14787
11.	Cannanore	10144	4904	1523	16571	2225	2434	2399	2303	14829	7842	2400	25071
	State	98531	62173	69397	230101	2742	2425	3103	2765	177541	99052	141480	418073

TABLE No. 7.2

Season-wise area, mean yield and production of rice in each district during 1975-76

Districts	Area (hectares)		Mean yield (dry paddy in kg/hect.)				Production of rice (tonnes)							
			1975		1976		1975		1976					
	Autumn	Winter	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)														
Trivandrum	19319	20426	1654	41399	2322	2595	1599	2428	29472	34832	1738	66042		
Quilon	21161	29112	1156	51429	2142	2585	1818	2386	29783	49453	1381	80617		
Alleppey	30395	23545	42738	96678	2304	1848	3068	2531	46005	28593	86142	160740		
Kottayam	8008	18833	17482	44323	1967	2244	3429	2661	10348	27769	39390	77507		
Idukki	4126	9252	52	13430	2449	2544	3053	2517	6640	15464	104	22208		
Ernakulam	38096	40562	10285	88943	2011	2079	1983	2039	50340	55419	13401	119160		
Trichur	34566	59493	14319	108378	1761	1995	2317	1963	39987	77996	21799	139782		
Palghat	100835	82211	2136	185182	3095	3050	2465	3067	205018	164739	3460	373217		
Malappuram	50596	36154	6203	92953	2115	2080	2614	2135	70294	49417	10652	130363		
Kozhikode	24934	34962	4069	63965	1112	1911	2429	1632	18218	43895	6495	68608		
Cannanore	65196	29156	3937	98289	1843	2101	2477	1945	78963	40250	6408	125621		
State	397232	383706	104031	884969	2242	2332	2794	2346	585068	587827	190970	1363865		

TABLE No. 7.3

Season-wise area, mean yield and production of rice in Kerala during the period from 1968-69 to 75-76

Agricultural Year	Virippu (Autumn crop)			Mundakan (Winter crop)			Punja (Summer crop)			Total		
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		(11)	(12)	(13)
	Area in hectares	Mean yield of dry paddy (kg/hect.)	Production of rice in tonnes	Area in hectares	Mean yield of dry paddy (kg/hect.)	Production of rice in tonnes	Area in hectares	Mean yield of dry paddy (kg/hect.)	Production of rice in tonnes	Area in hectares	Mean yield of dry paddy (kg/hect.)	Production of rice in tonnes
1968-69	394879	2009	521258	380620	2286	571748	98372	2450	158348	873871	2179	1251354*
1969-70	393747	2016	521443	382171	2097	526570	98141	2767	178400	874059	2136	1226413*
1970-71	394798	2077	538886	381971	2259	566934	98061	2984	192185	874830	2259	1298005*
1971-72	395298	2126	552246	381971	2378	596808	97888	3151	202684	875157	2351	1351738*
1972-73	391900	2237	576192	382171	2426	609234	99623	2918	190941	873694	2527	1376367*
1973-74	392765	2347	605595	380980	2028	507755	100930	2168	143719	874675	2187	1257069*
1974-75	394927	2064	535545	384836	2382	602186	101703	2936	196200	881466	2303	1333931
1975-76	397232	2242	585068	383706	2332	587827	104031	2794	190970	884969	2346	1363865*

* Pooled estimates of state Series and IADP series of experiments

